LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A process for producing a borate-containing, low-alkali material, comprising:

induction-heating a boron-containing melting material directly in an appliance using an alternating electromagnetic field, wherein the boron-containing melting material includes at least one metal oxide having metal ions with a valency of at least two, the at least one metal oxide being in a quantitative proportion of at least 25 mol%, and the boron-containing melting material having a $B_2O_3/(B_2O_3 + SiO_2)$ ratio of ~~the molar substance quantities of silicon dioxide to borate of less~~ greater than or equal to 0.5, wherein the appliance comprises a skull crucible in which the boron-containing melting material is melted, the skull crucible has walls that comprise cooled tubes that are spaced apart from one another by a spacing of between 2 mm and 4 mm; and

supplying coolant to the cooled tubes to prevent the boron-containing melting material from running out from between the spaced apart cooled tubes.

2. (Previously presented) The process as claimed in claim 1, wherein the alternating electromagnetic field is a high-frequency field.

3. (Previously presented) The process as claimed in claim 1, wherein the alternating electromagnetic field has a frequency in the range from 50 kHz to 1500 kHz.

4. (Previously presented) The process as claimed in claim 1, wherein the boron-containing melting material comprises a borate-containing material, a borate glass, or a borosilicate glass with a high boric acid content.

5. (Previously presented) The process as claimed in claim 1, wherein the boron-containing melting material comprises a quantitative proportion of alkali-containing compounds of less than 2%.

6-7. (Cancelled)

8. (Currently amended) The process as claimed in claim [[7]] 1, wherein the cooled tubes of the skull crucible are short-circuited in [[the]] a region of the walls of the skull crucible that is surrounded by a high-frequency coil for emitting the alternating electromagnetic field.

9. (Previously presented) The process as claimed in claim 8, wherein the cooled tubes are short-circuited at, in each case, one location.

10. (Withdrawn) The process as claimed in claim 8, wherein the cooled tubes are, in each case, short-circuited at their ends.

11. (Currently amended) The process as claimed in claim [[7]] 1, wherein the cooled tubes comprise tubes made from platinum, a platinum alloy, or aluminum.

12. (Withdrawn - currently amended) The process as claimed in claim [[7]] 1, wherein the cooled tubes are coated with a layer of platinum or a platinum alloy.

13. (Currently amended) The process as claimed in claim [[7]] 1, wherein the cooled tubes are coated with fluorine-containing plastic.

14. (Currently amended) The process as claimed in claim 1, further comprising adding a batch in ~~the form of~~ pellets form to the appliance.

15. (Previously presented) The process as claimed in claim 1, further comprising stirring the boron-containing melting material during the induction-heating.

16. (Currently amended) The process as claimed in claim 1, further comprising blowing a gas into [[the]] the boron-containing melting material.

17. (Previously presented) The process as claimed in claim 16, further comprising introducing a bubbling tube into the boron-containing melting material and blowing the gas into the boron-containing melting material through a nozzle of the bubbling tube.

18. (Previously presented) The process as claimed in claim 1, further comprising refining the boron-containing melting material.

19. (Currently amended) The process as claimed in claim 18, wherein the boron-containing melting material is melted in a first appliance and refined in ~~at least two appliances~~ a second appliance connected in series with the first appliance.

20. (Withdrawn) The process as claimed in claim 18, wherein the boron-containing melting material is melted and refined in the same appliance.

21. (Withdrawn) The process as claimed in claim 1, further comprising discontinuously melting the boron-containing melting material in the appliance.

22. (Previously presented) The process as claimed in claim 1, further comprising continuously melting the boron-containing melting material in the appliance.

23-27. (Cancelled)

28. (Previously presented) The process as claimed in claim 1, wherein the borate-containing, low-alkali material is useful for the production of borate glasses and borosilicate glasses with a high boric acid content for optical applications, the boron-containing melting material comprising:

B_2O_3 45 to 66 mol%,

SiO_2 0 to 12 mol%,

$B_2O_3 + SiO_2$ 55 to 68 mol%,

Al_2O_3, Ga_2O_3, In_2O_3 0 to 0.5 mol%,

$\Sigma M(II)O$ 0 to 40 mol%,

$\Sigma M_2(III)O_3$ 0 to 27 mol%,

$\Sigma M(II)O, M_2(III)O_3$ 27 to 40 mol%,

$\Sigma M(IV)O_2, M_2(V)O_5, M(VI)O_3$ 0 to 15 mol%, and wherein

$X(B_2O_3)$ is greater than 0.78, where

M(II) = Mg, Ca, Sr, Ba, Zn, Cd, Pb.

29. (Previously presented) The process as claimed in claim 1, wherein the borate-containing, low-alkali material is useful for the production of borate glasses and crystallizing boron-containing materials, the boron-containing melting material comprising:

B_2O_3 30 to 75 mol%,

SiO_2 less than 1 mol%,

Al_2O_3, Ga_2O_3, In_2O_3 0 to 25 mol%,

$\Sigma M(II)O, M_2(III)O_3$ 20 to 85 mol%, and

$\Sigma M(IV)O_2, M_2(V)O_5, M(VI)O_3$ 0 to 20 mol%, and wherein

$X(B_2O_3)$ is greater than 0.90.

30. (Previously presented) The process as claimed in claim 1, wherein the borate-containing, low-alkali material is useful for producing crystallizing borate-containing material, the boron-containing melting material comprising:

B_2O_3 20 to 50 mol%,

SiO_2 0 to 40 mol%,

Al_2O_3, Ga_2O_3, In_2O_3 0 to 25 mol%,

$\Sigma M(II)O, M_2(III)O_3$ 15 to 80 mol%, and

$\Sigma M(IV)O_2, M_2(V)O_5, M(VI)O_3$ 0 to 20 mol%, and wherein

$X(B_2O_3)$ is greater than 0.52.

31. (Previously presented) The process as claimed in claim 30, wherein $X(B_2O_3)$ is greater than 0.55.

32. (Previously presented) The process as claimed in claim 30, wherein the quantitative proportions are

$\Sigma M(II)O$ 15 to 80 mol%,

$M_2(III)O_3$ 0 to 5 mol%, and

$X(B_2O_3)$ is greater than 0.60.

33. (Previously presented) The process as claimed in claim 30, wherein the quantitative proportion of substances selected from a group consisting of Al_2O_3, Ga_2O_3 and In_2O_3 does not exceed 5 mol%.

34. (Previously presented) The process as claimed in claim 30, wherein the quantitative proportion of substances selected from a group consisting of Al_2O_3, Ga_2O_3 and In_2O_3 does not exceed 3 mol%, the quantitative proportion of $\Sigma M(II)O$ is in the range from 15 to 80 mol%, and $X(B_2O_3)$ is greater than 0.65, where M(II) = Zn, Pb, Cu.

35. (Previously presented) The process as claimed in claim 1, wherein the boron-containing melting material comprises:

B_2O_3 20 to 50 mol%,

SiO_2 0 to 40 mol%,

Al_2O_3 0 to 3 mol%,

ΣZnO, PbO, CuO 15 to 80 mol%,

Bi_2O_3 0 to 1 mol%, and

$\Sigma M(IV)O_2, M_2(V)O_5, M(VI)O_3$ 0 to 0.5 mol%, and wherein

$X(B_2O_3)$ is greater than 0.65.

36. (Previously presented) The process as claimed in claim 35, wherein

B_2O_3 is 20 to 42 mol%,

SiO_2 is 0 to 38 mol%,

ΣZnO, PbO is 20 to 68 mol%,

CuO is 0 to 10 mol%,

ΣZnO, PbO, CuO is 20 to 68 mol%, and

Bi_2O_3 is 0 to 0.1 mol%, and wherein

$X(B_2O_3)$ is greater than 0.65.

37. (Previously presented) The process as claimed in claim 1, wherein the boron-containing melting material is free of PbO and CdO.